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ABSTRACT

This document contains three papers from a symposium on university HRD (human resource development) programs. A survey of 20 multinational corporations reported in "Determining the Labor Demand and Development Needs of HR/HRD Professionals in China" (William J. Rothwell) finds the demand for HR generalists and specialists in China is expected to increase significantly in the next 5 years. "New Forms of Education of Professionals for Vocational Education and Training" (Graham Attwell) describes a European Commission project to develop new occupational profiles and a new master's program for vocational education teachers, planners, and trainers. "Theory to Practice to Theory: Results of Applying a Customer Driven Continuous Improvement Process to an HRD Academic Program" (Wendy E. A. Ruona, Roger F. Miller) discusses the application of a process improvement model to three customer groups: business leaders, HRD scholars, and HRD students. (KC)

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William J. Rothwell, The Pennsylvania State University

New Forms of Education of Professionals for Vocational Education and Training
Graham Attwell, University of Bremen

Theory to Practice to Theory: Results of Applying a Customer-Driven Continuous Improvement Process to an HRD Academic Program
Wendy E. A. Rouna, University of Minnesota
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Determining the Labor Demand and Development Needs of HR/HRD Professionals in China

William J. Rothwell
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This article summarizes results of a 1996 survey of 20 multinational corporations in China. Labor demand for HR generalists in the respondents' organizations is expected to increase by 164% over current staffing during the next 5 years, HR specialists to increase by 542%, HRD generalists to increase by 426% and HRD specialists to increase by 253%.. Respondents identified 10 key topics for inclusion in academic programs geared to HR and HRD practitioners in China now and in 5 years.

"If China can sustain its current economic momentum, and there is little reason to believe that it cannot" writes John Naisbitt (1994), " by the year 2000 it will be the world's biggest economy. Bigger than the United States, bigger than Japan. In time, China's economy could be bigger than the combined economies of all of today's rich industrial economies" (p. 234). Indeed, "China is already the world's third-largest economy, surpassing Germany, trailing only the United States and Japan" (Naisbitt, 1994, p. 234).

Key to China's sustained growth is improved utilization of the human resource with which it is blessed in superabundance. Unfortunately, China still retains the trappings of a planned economy, which complicates efforts to manage and develop human resources in ways that are both sensitive to Chinese culture and that apply state-of-the-art human resource management (HR) and human resource development (HRD) practices learned from Western experience. Lacking effective human resource management and development, the Chinese will not be able to build on the strategic strength supplied to them by their human resources. To complicate matters, little research has been conducted on the competencies required of HR or HRD professionals in the People's Republic of China (PRC). What little has been done has focused on the culture-specific HRD competencies required of HRD professionals on Taiwan (Lee & Rothwell, 1995).

But what is the labor supply of HR and HRD workers in 20 multinational corporations doing business in the PRC? What is the labor demand for HR and HRD workers in those organizations over the next 5 years? and what topics or competencies should be addressed by an academic HR or HRD program in the PRC to meet the needs of the HR and HRD workers in the respondents' organizations? To investigate these general questions, the author of this paper made 2 trips to the PRC in 1996 and conducted a survey of selected multinational corporations doing business there. On both trips the author met with representatives of the multinational corporations to discuss an academic HR/HRD program established under the sponsorship of the corporations and in formal partnership with 2 Chinese universities. A needs assessment survey was conducted as a result of the first meeting with 32 representatives of 22 multinational corporations. Mailed in October 1996, the survey yielded a response rate of 91%--with 20 of the 22 corporations responding. The results of this descriptive and exploratory survey, while limited by a small sample size and a nonrandom sample, shed light on the current supply of HR and HRD professionals in the respondents' organizations, expected demand over the next 5 years and desired topics to be addressed by academic curricula for HR and HRD practitioners in the PRC over the next 5 years.

This paper summarizes the results of the study. It describes the research questions guiding the study, the research methodology, the study's major findings, and issues for future investigation.

Research Questions

The study goals focused around answering such questions as these: (1) What kind of HR professionals were employed by the respondents' organizations in the PRC? (2) What percentages of HR professionals

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in the respondents' organizations were obtained from inside and outside the PRC? (3) What kind of HR professionals did the respondents estimate that their organizations would employ in the PRC in 5 years? (4) What percentages of HR professionals did the respondents expect to obtain from inside and outside the PRC over the next 5 years? (5) What topics/competencies did the respondents perceive to be most important for HR/HRD practitioners in the respondents' organizations now? (6) What topics/competencies did the respondents expect to become most important for HR/HRD practitioners in the respondents' organizations over the next 5 years? (7) What did the respondents perceive to be the top 3 present priorities for preparing HR and HRD professionals in their organizations? (8) What did the respondents perceive to be the top 3 priorities for preparing HR and HRD professionals over the next 5 years? and (9) How willing were the respondents to participate in paid and unpaid internships for students in HR/HRD/instructional design?

Research Methodology

The researcher began the study by drafting a 10-item survey to address the research questions listed above. The questions were based on issues raised in the initial meeting with the 32 representatives of the 22 corporations. One Training Director in the PRC reviewed the survey prior to mailing. The researcher revised and shortened the survey based on the reviewer's recommendations.

How Was The Survey Conducted? In October 1996 the questionnaire was mailed to identified representatives of 22 multinational corporations that participated in an August 19, 1996 meeting, held in Beijing, about the academic preparation of HR and HRD practitioners in China. One company representative served as local sponsor and made repeated phone calls and electronic mail follow-up messages to increase the response rate. No effort was made to ensure that respondents consisted solely of HRD professionals, since the August 19, 1996 meeting revealed the possible need for 4 different types of HR or HRD professionals. A follow-up meeting with the representatives was held in November 1996.

Limitations of The Survey. This study was limited by (1) a small sample size; (2) possible systematic bias resulting from the choice of organizations responding, since multinational corporations may engage in practices different from joint venture companies and/or Chinese-owned organizations; and (3) no follow up with the 2 nonrespondents. Given the study's limitations, the results cannot be generalized beyond the respondent group.

Major Findings

Although the response rate was 91%, not all respondents answered every question. Hence, response rates vary by item. This section reports on the demographic information about the respondents and summarizes the study's major findings.

Who Were the Respondents? Of the 18 respondents who indicated the industry in which their organization was classified, 7 (39%) represented manufacturing. Six respondents (33%) marked "another industry," 4 (22%) marked "transportation, communication, electric, gas," and 1 (6%) marked "other services." Respondents who marked "another industry" were asked to specify. Five respondents did so, listing "information technology," "fast food restaurant," "natural resources marketing/development," "information," and "highly-diversified business."

Of the 18 respondents who indicated the number of people employed by their organizations, 6(33%) indicated their organizations employed between 500-1999 workers; 3(17%) marked 100-249, 3(17%) marked 250-499, 2 (11%) marked 0-99, 2 (11%) marked 2000-4999, and 2 (11%) marked 5000 or more.

Of the 18 respondents providing information about their job functions, 7(39%) indicated that they were" human resource professionals *with* responsibility for recruiting/hiring staff in China," 5(28%) marked "other," 4(22%) marked "human resource professionals *without* responsibility for recruiting/hiring staff in China," and 2(11%) marked "operating manager *with* responsibility for recruiting/hiring human resource staff in China."

Questions 1 and 2: What Kind of HR Professionals Were Currently Employed by the

Respondents' Organizations in the PRC, and What Percentages of HR Professionals in the Respondents' Organizations Were Obtained from Inside and Outside the PRC? Respondents were asked to indicate the current employment pattern of HR/HRD professionals in their organizations as well as to estimate the percentage of professionals obtained from inside and outside China. They were then presented with a list of 4 possible job categories and blank spaces in which to insert numbers and percentages. The survey results, presented in Table 1, show that respondents collectively employ 124 HR generalists, 19 HR specialists, 19 HRD generalists and 19 HRD specialists at present. Most HR and HRD talent has been hired from inside China, according to the respondents. One notable exception: the HRD specialist job category, with only 25% hired from inside China.

Questions 3 and 4: What Kind of HR Professionals Did the Respondents Estimate That Their Organizations Would Employ in the PRC in 5 Years, and What Percentages of HR Professionals Did the Respondents Expect to Obtain from Inside and Outside the PRC Over the Next 5 years? Respondents were asked to estimate the expected employment pattern of HR/HRD professionals in their organizations at the end of 5 years in the future and the percentage of professionals obtained from inside and outside China at the end of the same time. They were then presented with a list of 4 possible job categories and blank spaces in which to insert numbers and percentages. The survey results, summarized in Table 2, show that respondents collectively expect to employ 203 HR generalists, 103 HR specialists, 81 HRD generalists and 48 HRD specialists in 5 years. That represents an expected growth rate over 5 years of 164% in the HR generalist job category , 542% in the HR specialist job category, 426% in the HRD generalist job category, and 253% in the HRD specialist job category. The respondents expect about 80% of all HR and HRD talent will be hired from inside China.

Questions 5 and 6: What Topics/Competencies Did the Respondents Perceive to Be Most Important For HR/HRD Practitioners in the Respondents' Organizations Now, and What Topics/Competencies Did the Respondents Expect to Become Most Important for HR/HRD Practitioners in the Respondents' Organizations Over the Next 5 Years? The respondents were presented with a list of 17 topical issues/competencies and were asked rate them on a scale from 1 (*not important*) to 4 (*very important*). The survey results, presented in Table 3, reveal that respondents perceive 10 topics/competencies to be most important for HR/HRD professionals now and ten topics/competencies to be most important for HR/HRD professionals 5 years in the future.

Questions 7 and 8: What Did the Respondents Perceive to Be the Top 3 Present Priorities for Preparing HR and HRD Professionals in Their Organizations, and What Did the Respondents Perceive to Be the Top 3 Priorities for Preparing HR and HRD Professionals Over the Next 5 Years? Respondents were asked to list the top three present priorities for preparing HR and HRD professionals based on their organizations' current needs. That item elicited 1 page of responses, which are provided verbatim in Table 4. Respondents were also asked to list the top three priorities for preparing HR and HRD professionals over the next 5 years based on their organizations' expected needs. Verbatim responses to that item are provided in Table 5.

Question 9: How Willing Were the Respondents to Participate in Paid and Unpaid Internships for Students in HR/HRD/Instructional Design? Respondents were asked to indicate whether their organizations would be willing to participate in paid or unpaid internships for students in HR/HRD/instructional design and would be willing to hire graduates "provided they met the organization's requirements and vacancies were available." Of 14 respondents answering the first question, 11(79%) indicated that they would be willing to participate in paid internships. Of the 16 respondents answering the second question, 14(88%) expressed a willingness to participate in unpaid internships. Finally, of the 17 respondents answering the third question, 16(94%) indicated a willingness to hire graduates of an HR/HRD program, "provided they met the organization's requirements and vacancies were available." (The one respondent who answered "no" to the last item indicated that "other credentials are considered more important [than academic credentials in HR/HRD].")

Issues for Future Investigation

Here are some recommendations for future research based on this study, in no particular order of importance:

Table 1: HR/HRD Professionals Currently Employed in China By Respondents' Organizations			
Kind of HR/HRD Professional Currently Employed in China	How Many Does Your Organization Currently Employ? *(Insert number in box below.)*	Estimate Percentage of Professionals Obtained from Inside and Outside China	
If none, insert "0" in the columns at right		***% from Outside China***	***% from Inside China***
Human resource management (personnel) professionals *with a generalist background*	N = 19 Total = 124 Mean = 6 Std. Dev. = 9.8 Var. = 96.9 Max = 45 Min = 0	N = 16 Mean = 37.6 Std. Dev.= 32.6	N = 16 Mean = 62.4 Std. Dev.= 32.6
Human resource management (personnel) professionals *with specialization* (such as compensation, benefits, etc.)	N = 19 Total = 26 Mean = 1.4 Std. Dev. = 1.9 Var. = 3.7 Max = 6 Min = 0	N = 9 Mean = 35.9 Std. Dev. = 41.2	N = 9 Mean = 64.1 Std. Dev.= 41.2
Human resource development (training) professionals *with a generalist background*	N = 19 Total = 28.5 Mean = 1.5 Std. Dev. = 1.5 Var. = 2.25 Max. = 6 Min. = 0	N = 14 Mean = 33.1 Std. Dev. = 37.6	N = 14 Mean = 66.9 Std. Dev. = 37.6
Human resource development (training) professionals *with specialization* (instructional design ability)	N = 19 Total = 8 Mean = 0.4 Std. Dev. = 0.6 Var. = 0.4 Max. = 2 Min. = 0	N = 7 Mean = 75 Std. Dev. = 43.3	N = 7 Mean = 25 Std. Dev. = 43.3

- What is the current supply of HR and HRD professionals in Chinese-owned businesses in the PRC, and how does it compare to that of multinational corporations?
- What cultural differences and similarities exist among effective HR and HRD practices in Western nations and in the PRC?

Conclusion

Few can dispute that globalization is a driving force in today's organizations. China is one of the most dynamic economies in the world today. HR and HRD professionals would be well-advised to pay

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Table 2: HR/HRD Professionals Expected To Be Employed in China By Respondents' Organizations At End of Next 5 Years			
Kind of HR/HRD Professional in China	How Many Does Your Organization Expect To Employ at End of 5 Years in the Future *(Insert best guess estimate in box below.)*	Estimate Percentage of Professionals Obtained from Inside and Outside China	
If none, insert "0" in the columns at right		*% from Outside China*	*% from Inside China*
Human resource management (personnel) professionals with a generalist background	N = 20 Total = 203 Mean = 10.2 Std. Dev. = 15.2 Var. = 229.6 Max. = 60 Min. = 0	N = 14 Mean = 14.3 Std. Dev. = 26.7	N = 14 Mean = 85.7 Std. Dev. = 26.7
Human resource management (personnel) professionals with specialization (such as compensation, benefits, etc.)	N = 20 Total = 103 Mean = 5.2 Std. Dev. = 13.1 Var. = 172.6 Max. = 60 Min. = 0	N = 15 Mean = 19.7 Std. Dev. = 38	N = 15 Mean = 80.3 Std. Dev. = 38
Human resource development (training) professionals with a generalist background	N = 20 Total = 81 Mean = 4.1 Std. Dev. = 5.1 Var. = 26.1 Max. = 20 Min. = 0	N = 12 Mean = 13.1 Std. Dev. = 28.7	N = 12 Mean = 86.9 Std. Dev. = 28.7
Human resource development (training) professionals with specialization (instructional design ability)	N = 20 Total = 48 Mean = 2.4 Std. Dev. = 3.6 Var. = 13.1 Max. = 15 Min. = 0	N = 12 Mean = 19.2 Std. Dev. = 33.5	N = 12 Mean = 80.8 Std. Dev. = 33.5

attention to growth opportunities in the PRC while remaining sensitive to the differences created by a culture and transitioning economy that are quite different from what has been traditionally found in the West. Although this paper describes the results of a limited study, more intensive research should be directed to identifying and examining the labor supply, labor demand and requisite competencies for success in HR and HRD in the PRC.

References

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Table 3: Topics/Competencies of Importance for HR/HRD Professionals in the PRC At Present and At The End of Next 5 Years

Topics/Competencies Important NOW					Topics/Competencies Important At End of Next 5 Years				
Topics	Rank	N =	Mean	Std. Dev.	Topics	Rank	N =	Mean	Std. Dev.
Recruiting employees	1	17	3.53	0.62	Analyzing perform-ance problems	1	20	3.85	0.37
Analyzing training needs	2	20	3.3	0.66	Analyzing training needs	2	20	3.8	0.41
Selecting employees	3	17	3.29	0.69	Selecting employees	3	17	3.53	0.51
Compen-sating employees	4	17	3.24	0.75	Benefits Planning	4	17	3.51	0.62
Analyzing perform-ance problems	5	20	3.1	0.85	Compen-sating employees	5	17	3.47	0.51
Orienting employees	6	17	3.06	0.75	Roles of HR/HRD	6	20	3.4	0.68
Benefits Planning	7	17	3	0.71	Helping a group establish change plans	7	20	3.4	0.75
Roles of HR/HRD	8	20	2.9	0.91	Helping a group implement an action plan	8	20	3.39	0.7
Delivering instruction	9	20	2.8	1.11	Recruiting employees	9	17	3.35	0.61
Helping a group implement an action plan	10	18	2.72	0.83	Orienting employees	10	17	3.24	0.75

Table 4: Respondents' Perceptions of the Top Three Present Priorities for Preparing HR and HRD Professionals Based on Their Organizations' Current Needs	
Priority Rank NOW	**Verbatim Comments by Survey Respondents**
1 (*Most Important*)	■ Compensation program design and communication ■ Business oriented HR ■ Hiring quality person ■ Interviewing and selection of employees ■ Identification of HR roles and responsibilities ■ Structure/functions of HR/HRD ■ Designing/developing instructional materials ■ Analyzing performance problems so that improvement can be made ■ Partnership with business ■ Organization Development ■ Performance consulting for individuals ■ Roles of HR and HRD professionals ■ Recruitment ■ "It's not easy to find a qualified person for the position"
2	■ Understand training needs and design programs ■ Managing performance ■ Training staffs to meet the need of competency development ■ Performance review and management ■ Pro-active, high self-initiative in performance ■ Analyzing training needs ■ Recruiting employees ■ Delivering instruction so that the employees can implement it well ■ Organizational change ■ Retention [*can't read that word for sure*] ■ Education measurement ■ Analyzing training needs ■ Training ■ "Continue to improve the employees' abilities"
3	■ Recruiting and selecting workforce ■ Training & development ■ Make the B & G [*can't read*] more competitive ■ Training management ■ Problem-solving ■ Delivering instruction ■ Analyzing training needs ■ Health and safety can increase the production ■ Consulting skills ■ IT in HR ■ Instructional design ■ Analyzing performance problems ■ Compensation ■ "Find the problems and solve it"

Table 5: Respondents' Perceptions of the Top Three Priorities in 5 Years for Preparing HR and HRD Professionals Based on Their Organizations' Needs	
Priority Rank OVER NEXT 5 YEARS	**Verbatim Comments by Survey Respondents**
1 (*Most Important*)	■ Help business to develop and execute an action plan ■ Training & development ■ To build the first choice employer image ■ Training management ■ Coaching skills ■ Helping a group establish a change plan ■ Helping a group establish a change plan ■ Analyzing performance problems so that improvement can be made ■ Performance consulting ■ Organization Development ■ Performance consulting for organizations ■ Analyzing performance problems ■ Performance management ■ "Recruiting the most suitable person to the group is always the most important"
2	■ Deliver good training/development program ■ Managing performance ■ To tap the channels of potentials ■ Management development ■ Team building ■ Analyzing performance problems ■ Analyzing performance problems ■ Delivering instruction so that the employees can implement it well ■ Reengineering of HR functions ■ IT in HR ■ Instructional system design ■ Evaluating instruction ■ Compensation ■ "Improving the employees' abilities should be put on the top of the others"
3	■ Deliver competitive/affordable comp/benefit program ■ Business-oriented HR ■ To become an enterprise with sustained growth ■ Succession planning ■ Career planning and developing ■ Roles of HR/HRD programs ■ Designing and developing instructional materials ■ Health and safety can increase the production ■ Pay for skills ■ Organizational design ■ Help a group establish a change plan and implement it ■ Development ■ "It's the weakness of our company in HR work. We need to pay more attention to this issue" [that is, compensating employees]

New Forms of Education of Professionals for Vocational Education and Training

Graham Attwell
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The paper describes the research being carried out through a European Commission sponsored project 'New Forms of Education of Professionals for Vocational Education and Training. The project brings together partners from fourteen different European countries and is aiming to develop new occupational profiles and a new European Masters (M.A.) programme for education planners, teachers and trainers in VET. The paper describes the aims, methodology and initial results of the project

There has been growing recognition over the last decade of the importance of a skilled workforce as the basis of competitive economic advantage. This has led to increasing attention being paid to initial and continuing vocational education and training. Most European countries have embarked on ambitious programmes of reform designed to ensure a supply of skilled labour for industry and commerce. Whilst the form of these changes may differ from one country to another the underlying objectives are similar including the development of closer links between vocational schools and enterprise, the development of core skills or key qualifications, measures to ensure the 'parity of esteem' of vocational education against general education and moves to promote continuing training and lifelong learning. At the same time changes in work organisation, an ever shortening product life cycle, new standards for quality assurance and an explosion in implementation of new technology has presented a formidable challenge to traditional forms of vocational education and training.

The changing role of vocational education and training has, of course, profound implications for those working in this field. Traditionally vocational education and training has never been seen as a profession in itself, like, for instance doctors or general school teachers. At a research level VET has been the preserve of a variety of different disciplines - including psychology, pedagogy, labour market research, and work science. Planners and policy makers in vocational education and training have likewise been drawn from many different fields. The failure of vocational education and training to gain recognition as a profession is reflected in the relatively low prestige, and rates of pay, for vocational teachers and trainers. It may also be seen in the generally low levels of training for people working in the field when compared with established professions. The new demands being placed on vocational education and training demand a new role for what might be called vocational education and training professionals and new forms of education for these planners and practitioners.

A Community of Practice in Vocational Education and Training

This paper describes the research being carried out under a European Commission sponsored Leonardo Surveys and Analyses project, 'New Forms of Education of Professionals in VET' (EUROPROF). The two year research programme is being carried out by an international team bringing together 16 partners drawn from research institutes and universities in fourteen different European countries. The long term aim of the project is to develop a 'community' of VET researchers and practitioners and the 'professionalisation' of VET, in other words to gain the

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recognition of VET as a discipline and a profession in its own right. In the shorter term the project aims to build an international network of VET researchers and to develop new qualifications for VET professionals, planners, teachers and trainers, through a European Masters (MA) qualification to be offered in universities in different European countries. Needless to say such an undertaking faces serious challenges, not least being the management of such a culturally and linguistically diverse partnership.

Methodologies for International Research

Two important questions concerned the project design and methodology. Traditionally international projects in vocational education and training have tended to work through comparative methodology, through an examination of the different national systems for VET. Such a methodology is inadequate for the aims of EUROPROF. Instead the project has developed the idea of collaborative or co-operative research, through both building transnational teams to focus on common research questions, and through a process of mutual learning based on national research (Heidegger, 1996). The aim is not to transfer features from one national system to another but rather to use the analysis of different national systems as a springboard for the development of new ideas and innovations. Whilst the project will, of course, address its findings to policy makers and planners, the driving force for change is from the bottom up, in changing the practice in the different partner countries and in developing 'model projects' which can serve as an observatory for evaluation and reform. As such the project is based within the tradition of 'action research'.

The second methodological question regards the question of different national cultures and traditions. Within the arena of social policy there are quite different degrees of similarity and difference in different fields of activity. Vocational education and training systems in Europe are unusually diverse, reflecting their emergence in different historical, social, economic and cultural situations (Rose, 1992). Even following the establishment of the European Union and the growth of an international economy, processes of convergence have been accompanied by simultaneous divergent trends (Heidegger & Rauner, 1993). A European qualification implies a degree of conformity in terms of recognition, curriculum, organisation and pedagogy. At the same time it is necessary to respect and capitalise on the different traditions of education in the different countries and on the different regional and national economic needs such education programmes will address. In recognition of the importance of 'training the trainers' the European Commission has sponsored a plethora of different projects and initiatives over the past decade. Yet, despite well meaning intentions and hard and earnest endeavours by researchers and policy makers alike, there has been a marked failure to develop any common approach to the education of VET professionals. The project has developed an approach to this question based on identifying and elaborating a series of common 'cornerstones' for development and in agreeing on a common framework (Attwell, 1996). Within this common framework for the education of VET professionals each national partner is free to develop their own qualifications within their different cultures and systems and according to regional and national needs. The next section of this article will explain the framework for programme development.

Anthropocentric Production and Shaping Skills

The first of the project cornerstones is the idea of anthropocentric production - that workers should be given the skills and the autonomy to shape and control technology and design their own work organisation. Such a concept stands in contrast to the customary 'deficit model' of vocational education and training, to providing the skills and understanding required for people to adapt to socio-economic and technological development. This model has led to a situation where VET is always following behind new technology and new economic developments in a vain attempt to catch up. Instead the project proposes that VET should be providing for 'future

skills'. But instead of trying to predict or guess future skill needs, for new production processes and new commercial and social services it is proposed that people themselves should have the ability to 'shape' the content form and organisation of work technology. Obviously this idea is underpinned by social principle and on wider ideas of the organisation of society itself. But it is also predicated within the changes in the organisation of manufacturing and services with increasing rates of change in technology and new emphasis on quality and small batch production. The move away from mass production, the emphasis on small and medium enterprises as the driving force for job creation and the emergence of the 'learning organisation' as a goal for organisational development all ask new competencies of the workforce. The ability of workers to undertake work self-reliantly, independently and to utilise creative and communication skills is a new goal for vocational education and training. Human centred innovation has implications for the organisation of production with the competences of team work, and communication becoming highly valued. The aim of life long learning has been the focus for numerous national and European Community initiatives over the past five years. Life long learning demands new skills and a new approach to learning and work which cannot be gained from traditional VET. VET professionals themselves not only must understand the new skills required, demanding changes in their own skills and knowledge, the new didactic models and methodologies such an approach implies but must themselves accept the need for life long learning.

The 'Social Organisation of Innovation'

The idea of 'shaping' is linked to the aim of the 'social organisation of innovation'. Human skills are increasingly seen as the key element in economic competitiveness resulting in the high priority currently being given to vocational education and training. The European cultural tradition of social partnership and social inclusion emphasises not only economic competitiveness but also social competitiveness - social cohesion and personal self-fulfilment. Technical innovation and new work forms of work organisation, linked to regional development, the creation of new employment opportunities and social reform comprises the social organisation of innovation. In other words innovation and economic growth and development are not based on just on the introduction of new technology and cheaper production costs but on the social process of skilled work. VET professionals, planners, teachers, trainers, have a wider role than the traditional passing on of a set of skills. In viewing human skill as the basis of societal innovation then VET professionals themselves become pivotal in the process of innovation.

Work Process Knowledge

A third cornerstone for the project is the idea of work process knowledge. The role of skilled work in the encouragement of innovation has already been explained. Empirical research has pointed to the importance of work process knowledge - knowledge encompassing the whole work process, often acquired through the experience of work and knowledge which is required for successful performance in the workplace (Fischer, 1996). Whilst theories of the learning organisation and of situated learning have illustrated the centrality of the design of the workplace as a medium and opportunity for learning, less attention has been paid to the role of the teacher and trainer in mediating and facilitating this process. Many of the studies in the field have tended to concentrate on the human resource development and of the implications of new forms of work organisation for management development, rather than examine the role of the teacher and trainer in the acquisition and development of work based knowledge and skills (Attwell and Jennes, 1996). If teachers and trainers are to utilise the workplace as the basis for lifelong learning then they, themselves, need a thorough grounding in occupational and technical skills and work process knowledge.

New Occupational Profiles

The new role and responsibilities for VET professionals are very different to the traditional view of a vocational teacher or trainer. One of the major objectives for the project has been to identify new occupational profiles for VET professionals in the different European countries. Of course many of the teachers and trainers do not currently require or utilise the wide range of competences and skills being proposed. As such a traditional needs analysis would not be sufficient for this purpose, concentrating as it does on the present skills demands. Instead the researchers have conducted interviews with a wide range of different organisations and individuals including policy makers and planners, existing providers of education for teachers and trainers, managers and HRD specialists in enterprises and VET practitioners themselves. The new occupational profiles are multi-dimensional and involve the integration of different expertise and skills.

One key decision has been the different organisational focus for the planners, teachers and trainers. Should there be separate occupational profiles for a teacher working in initial vocational education and training, a trainer working with the long term unemployed and an enterprise based training in continuing education? The EUROPROF project team has attempted to bring together these different roles within a single broad occupational profile. Firstly it is felt that the present divide between initial and continuing VET does not reflect the goal of lifelong learning. Secondly it is seen as desirable that the VET professional of the future is able to employ a wide variety of learning strategies and pedagogic methodologies. Obviously there are different learning strategies for continuing training in a work based situation and for young students in a vocational school. But VET professionals should have an understanding of the theories of learning and to be able to design learning situations based on the needs of the trainees. It is also felt that in the future VET professionals should themselves possess the skills and knowledge to be able to move between different contexts for learning, in the development of their own professional career. An understanding of the broad basis of vocational education and training is also central to the idea of a community of practice, itself an integral part of the goal of developing VET as a profession.

Occupations and Human Resource Development

A further decision, and one which has exited much debate and not inconsiderable disagreements, has regarded the occupational focus of the profiles. Over the past decade Human Resource Development has become well established as a university discipline and within enterprises there has been a move away from seeing training as a personnel function to the appointment of HRD managers. The background for these new HRD professionals is varied although many seem to have an initial degree in business studies. University courses in Human Resource Management are almost always free of any occupational focus, concentrating as they do on the theory, process and management of human resources. In contrast the EUROPROF project design has adopted an occupational focus as the basis for new occupational profiles. The reason lies in the belief in the practice of skilled work as the basis for innovation and on work process knowledge as central to life long learning. One of the conditions for the development of occupational expertise is the ability to reflect on ones own professional and occupational practice. As such VET professionals play two roles, as a skilled practitioner in their own occupational area and as a teacher, trainer or planner in education and trainer. This is not to imply that the two are separate and can be acquired as add on components. A teacher or trainer in health care needs to be able to reflect on their practice as a health care professional from the viewpoint of vocational education and training, similarly they must be able to reflect on their practice as a teacher from the viewpoint of a health care professional. In other words the new occupational profiles include both technical and pedagogic skills. Whilst occupationally focused it would be foolish to narrow the occupational range of practice unnecessarily, especially given the movements towards multi-skilling within the European workforce. In practice the selection of a range of occupations as a

basis for the new profiles is not as difficult as it might at first sight appear. Most European countries have a classification system for similar broad occupational roles. In fact the EUROPROF project partners have concentrated on two different groups of occupations - those in areas where technological development and new work organisation is leading to very rapid development and change, such as engineering, and new emerging occupations, like child care and tourism. The decision to develop occupationally based profiles does not mean, however that the importance of human resource development has been ignored. Many of the ideas which have been developed by HRD practitioners, such as the learning organisation and the importance of continuing training, are included in the new profiles.

The Existing Education of VET Professionals

A further stage of the research has involved the examination of existing systems for the education of VET professionals in the different European countries. Existing practice is extremely varied, not only between the European states but also within individual countries. Whilst there are growing moves to establish VET education at university level the lack of recognition as a profession has limited the development of education and training. It has also suffered from the divides between initial vocational education and further or further vocational training, and between the different organisational forms of delivery through full and part time schools, enterprises and more recently special programmes for the unemployed. A number of different traditions and trends can be identified which, in individual countries, may exist in parallel and in some cases overlap.

The first is the education of skilled workers and craftspeople through, usually part time, courses with a curriculum based on the development of teaching skills. Occupational and vocational knowledge and expertise is taken as having been gained through initial vocational training and through a period of work experience and the education is usually 'context free'. This is the predominant form of education for further education teachers in England and Wales. While there are some full time courses the subject focus for these programmes is usually in academic subject areas and for either route vocational pedagogics is not taught as a subject. A recent report into the professional training of trainers in the construction industry in Wales found that „many craft trainers view their responsibilities as educators myopically and, often lack a sufficient breadth of knowledge of the history and development of their own skill and those of the other principal construction skills....Their teacher training is a valuable addition to their professional skills but its structure is too often unrelated to the recipients construction knowledge" (Prosser, 1996). Whilst in the UK academic teachers are required to have completed a university level course, for vocational education and training teachers there are no formal requirements either in terms of education or relevant experience.

Teachers for vocational schools have been educated at university level in Germany since the 1960s, a move which has led to high social status and salary. However, there is a division between vocational teachers and practical trainers, drawn from certified master craftsmen, which is reflected not only in terms of social status and hierarchy, but also in terms of division of knowledge (Heisse, 1996). While practical trainers are experienced experts in their occupational subject, albeit with a limited knowledge in vocational pedagogics, university trained vocational teachers are increasingly separated from occupationally based knowledge or work process knowledge. Entry to university is based on the attainment of the academic Abitur and there is a tendency for the occupational subject studies in universities to be focused on traditional sciences rather than on applied work process knowledge.

In other countries such as Belgium elements of both routes can be seen in the education of vocational education and training professionals. For school based education there are university teaching training programmes incorporated as part of initial degrees, as well as courses in full time teacher training colleges, and part time certificates of pedagogical competence obtainable through social advancement courses (Jennes, 1996). For apprenticeship training there is no formal necessity for industrial or professional experience for the required

certificate of competence. In common with many countries professional academic qualifications, especially at university level, are seen as an alternative to vocational education and occupational experience and practice, regardless of the subject in which the degree has been gained.

A New Curriculum Profile for the Education of VET Professionals

The present confusion of qualifications and qualification routes for VET professionals in Europe both reflects the failure of VET to develop as a profession in its own right and at the same time is a barrier to that development. The contrast between university programmes based on academic subject areas and short, usually low level, training courses, based on the development of training and coaching competences for skilled workers, reflects the uncomfortable role of vocational education and training between the realms of education and economy. The recognition of the importance of skilled work as the future basis of innovation in the European economies demands a strategic approach to the education of VET professionals. This analysis has led the EUROPROF project partners to produce a curriculum framework outlining the structure and content of a new Masters (MA) Degree qualification (Attwell, 1997). The first section provides a general background for vocational education and training including the history, structures and systems of VET and the economy and labour market. The second section, entitled vocational pedagogics looks at the theory, practice and research in VET, methods and tools of research in social sciences and didatical theories, methods and approaches in VET. The final two sections of the framework are focused on a defined occupational field. Section three examines the development of occupations and occupational fields, the development of curricula and teaching and learning processes, opportunities for the development of learning situations for the analysis, shaping and evaluation of occupational work and he development of life long learning and professional expertise through participation in the shaping of work. The fourth section of the curriculum framework provides the specialised knowledge base for the subject area underpinning occupational profiles and skilled work in occupations in that area. It includes both theory and practice in the general subject and in specialised areas within that subject.

This new curriculum framework is intended to serve two purposes. Firstly during the first part of 1997 it will be the subject of a major consultation exercise with planners and policy makers, institutional providers, enterprises and social partners. The aim is to gain support for the idea of a new post graduate programme of study in vocational education and training and to gather opinions on the content of such a subject. The second purpose is to act as a practical planning tool for universities in Europe to start the detailed preparation of new programmes for post graduate education in vocational education and training.

Concluding Remarks

There is little doubt that vocational education and training will remain central to policy debates concerning economic and social development, at least within the countries of Europe. However the issues raised are extremely complex, given the interplay between work organisation, social, economic and regional development and education itself. If the future development of the European economies and of employment does indeed rest on social innovation and on the skills of the work force then there is an urgent necessity for the recognition of vocational education and training as a discipline in itself. The development of new occupational profiles and the design of new programmes for the education of VET professionals will not, on their own, 'professionalise the professionals'. Neither will the formation of European research networks or the development of international co-operative research teams by themselves result in the emergence of the 'community of practice' central to the identity and regulation of any discipline. However both developments mark important and necessary steps in this direction.

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Note

The Leonardo Surveys and Analysis Project 'New Forms of Education of Professionals for Vocational education and Training' has produced numerous research papers and publications. If you would like more details of the work of the project please contact Graham Attwell - Tel.: +49 421 218 4626; Fax: +49 421 218 4637; e-mail: attwell@uni.bremen.de.

Theory to Practice to Theory: Results of Applying a Customer-Driven Continuous Improvement Process to an HRD Academic Program

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This paper describes the piloting of a customer-driven process for continuous quality improvement in an HRD academic program. The effort applied a unique process improvement model to three customer groups identified for the HRD academic program: business leaders, HRD scholars, and HRD students. The project identified initial customer requirements and key processes within the academic program, piloted a customer satisfaction instrument, and used customer data to make recommendations for improving the academic program.

Human Resource Development (HRD) is, by its very nature, an applied discipline. However, HRD is also a field that is working hard to develop its own base of theory and research, while at the same time investing heavily in preparing its direct customers (students) for this rapidly growing profession and meeting the needs of its indirect customers (the business and scholarly communities). A challenge facing many of these academic programs is the job of balancing these sometimes divergent goals: developing and testing HRD theory while defining customer requirements and insuring that customer satisfaction is being achieved.

During the last two years, the University of Minnesota's HRD academic program has had the opportunity to implement a process that facilitates a continuous quality improvement effort focused on optimizing the student experience in the program. The impetus for this effort was a common desire heard from (1) students, (2) industry leaders, and (3) HRD scholars for an HRD academic program that more directly connected theory to practice. What goes on in an HRD program in terms of mission, instruction, research, internships, and other extra-curricular activities directly influences the perceptions and satisfaction level of each of the above-mentioned customer groups.

Consequently, the processes and activities of the department need to be continuously improved so that the undergraduate and graduate student experience is enhanced. It is essential that graduates feel that what they have learned is relevant and applicable. Equally important is that the University of Minnesota is seen by HRD professionals and academics as a world-class institution which effectively educates and prepares its student body for further pursuits. It is with these needs in mind that the "Improving the Quality of the Human Resource Development Program" (IQ-HRD) was adopted.

Research Question

How can a graduate HRD academic program conceptualize and implement a customer-driven continuous improvement process? What lessons can be learned in the process?

Quality and the University of Minnesota

In late-1994, the University of Minnesota announced a program entitled "University of Minnesota Quality" (UMQ) after working on formal approaches to quality improvement for some time. The UMQ program was designed to support the strategic vision of the institution (a vision driven by the

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improvement of quality) and to be aligned with the accountability measures of that strategy. The University made available $200,000 in matching fund grants to accelerate the integration of quality-related principles and practices throughout the University community. In addition to the establishment of a UMQ central office, activities during the first-round of the matching fund grant process included working toward the goal of attaining a more "user-friendly" University of Minnesota for students, staff, faculty, and the citizens who seek the services of the University.

The HRD academic program at the University of Minnesota applied for and was awarded a matching-funds grant to implement a continuous quality improvement effort. The purpose of this undertaking was to build on the HRD program's strengths by using a theoretically sound process for insuring that the "theory-to-practice" issue discussed in the introduction of this paper was effectively addressed. The primary goal was to even more effectively align students' education with the requirements of their future employers and leaders in the HRD scholarly community. Secondary benefits included serving an integral role in creating a more "user-friendly" University of Minnesota by recognizing that business and academia are also users of HRD services and play an integral role in quality improvement.

Theoretical Framework

Quality Principles The IQ-HRD effort is a continuous improvement initiative distinct from Total Quality Management (TQM) efforts that many University's are undertaking (Hertzler, 1994; Roberts, 1995; Seymour, 1994; Sims, 1995). It is more limited in scope than TQM, but is grounded in quality principles and techniques that foster continuous improvement in higher education (Brown & Koenig, 1993; Burgess, 1996; Hertzler, 1994; Lozier & Teeter, 1993; Seymour, 1995; Sherr & Lozier, 1991; Williams, 1993).

Some of these undergirding quality principles include: constancy of purpose, focus on input of customers, pursuit of quality through process improvement, continuous survey and fact-based analysis, cyclical nature of the process model (in spirit of plan-do-check-act), emphasis on stakeholder participation in all phases of process, development of interventions based on facts, continuous learning, and, ultimately, performance improvement.

Customers Customers are defined as anyone who ultimately determines the success or failure of a product or service. There has been some resistance to using the term "customers" in the academic setting (Williams, 1993). However, students and others who contribute to the success or failure of an academic program are customers in the truest sense (Burgess, 1996), especially given the changing nature of the academic environment. Quality improvement demands that academic programs look outward and grow to understand that proper measures of success lie in the eyes of their customers.

The IQ-HRD model acknowledges that customers have basic requirements of the HRD program—that is, tangible aspects of a product or service that must be there in order to even have them as customers (Farrell, 1995). Customers also demand that suppliers consider their expectations and perceptions of how the product of service should be delivered (Brocka & Brocka, 1992; Farrell, 1995). Requirements paired with expectations create a "whole picture" of key factors important in maintaining and strengthening customer relationships.

Definition of HRD Program Customers. The success or failure of the University of Minnesota HRD academic program is dependent on quite a few constituencies. For the purposes of this project, three key customer groups were identified. They are:

- Students—who are considered direct customers because they directly receive the services provided by the HRD program and staff.
- Industry leaders in HRD—who are identified as indirect consumers of the products of the department (as they hire graduates of the HRD program).
- Academic leaders in HRD—who also indirectly consume department products (as they hire students further pursuing academia or utilize scholarly research and contributions offered by these students).

Other customer groups identified, but not directly addressed, in this phase of the project include potential students, HRD program faculty, administrative and support staff who work with the HRD students and faculty, and University administrators.

Processes Processes are the means by which an organization carries out its mission and achieves specific outcomes (Lozier & Teeter, 1993; Rummler & Brache, 1995). Organizations are comprised of a multitude of processes and these flows of activity are considered to be the most critical dimension of quality improvement. Seymour (1992) states that "solving problems is not the answer to causing quality, the solution is understanding and continuously improving the processes which give rise to the problems" (p. 75).

Definition of HRD Program Processes. One of the first steps in implementing the process improvement model was to identify key inputs, processes, and outputs of the academic program. Core processes were discussed, listed, reviewed, and revised during several meetings of the HRD faculty involved in the project. The list was checked and expanded by reviewing HRD program-related tasks that HRD faculty were engaged in. If tasks identified were not associated with an existing item on the process list, a new process was sometimes identified and added to the list. As the list lengthened, a distinction was made between core processes and sub-processes, Ultimately, for the University of Minnesota HRD Program, pursuing quality requires improvement in the processes detailed in Table 1.

Table 1. Processes of the HRD Academic Program, University of Minnesota

Processes	Sub-Processes
Recruitment	• Marketing/Recruitment • Admissions
Course Offerings	• Course Content • Course Instruction • Course Scheduling
Student Advising	• Formal student advising • Student mentoring • Comprehensive exams • Theses/Dissertations • Job Placement
Research	• Technical Support for Research • Financial Support for Research • Dissemination of Research
Leadership to HRD Professions	• Professional Association Activity • Partnering • Advocacy for the Profession
Administration	• Faculty Decision-Making • Academic Staffing
Evaluation and improvement of HRD Academic Program	

Voice of the Customer The organizing framework for the IQ-HRD effort is called the "Voice of the Customer for the Human Resource Development Program" (Exhibit 1). This model describes an input-output flow in which customer requirements and customer satisfaction are monitored, analyzed, and integrated to serve as the foundation for the systematic quality improvement of specified processes in the HRD academic program.

IQ-HRD Process

The continuous quality improvement effort has proceeded/or will proceed as follows.

1. ***Formation of the HRD Quality Advisory Board*** The Advisory Board was established in Fall, 1996 and consists of twelve members. This Board is unique in that it is comprised of four representative each from the three customer groups of the HRD program

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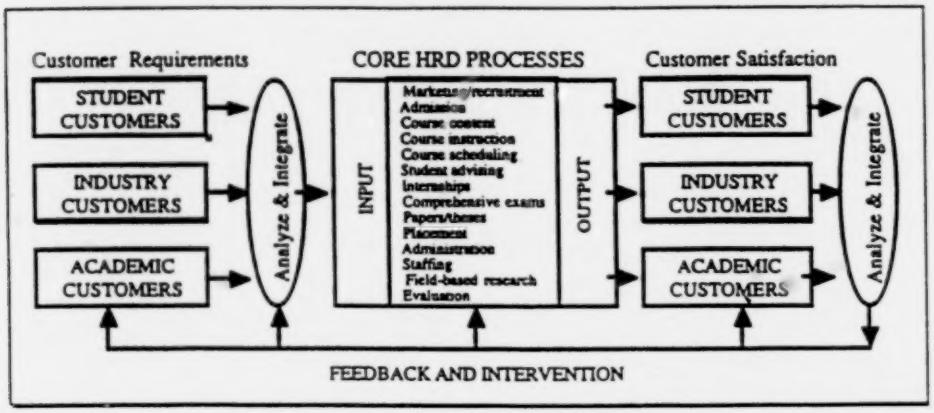
Exhibit 1. The Voice of the Customer for the Human Resource Development Program



(students, industry leaders, academic leaders). The HRD program's past experience with establishing Quality Advisory Boards has been quite positive and we feel quite confident that these volunteers are able to very effectively represent the key customer group and their needs and expectations.

This Board meets quarterly and serves as a focus group and integrative body that addresses the quality improvement of the student body experience in the HRD program. Their role is to guide the design, development, and implementation of quality improvement processes in the HRD program. Their first steps included:

- Approval of the quality improvement process adopted by the HRD program.
- Verification of key customer groups.
- Determination of customer quality requirements and key quality dimensions of each requirement for each customer group.

2. Survey of Customer Base The key to any quality improvement effort is decisions based on data obtained directly from a sample of customers. Tasks undertaken in this phase of the IQ-HRD project included:

- Development of a survey to measure customer requirements and customer satisfaction levels of all three customer groups (students, industry leaders, and academic leaders). To simplify the survey process, a single questionnaire format was developed using the HRD academic program processes as an organizer. Customers were asked to indicate their degree of satisfaction or dissatisfaction with twenty-one aspects of the HRD academic program, using a five-point Likert scale. These items provided quantitative data on customer satisfaction. A set of companion items invited customers to recall, if they could, specific satisfying and dissatisfying experiences associated with each aspect of the program. These items provided qualitative data in the form critical incidents.
- Approval of that instrument by Quality Advisory Board members.
- Survey administration. Surveys were piloted by mailing them to approximately 20 representatives of each of the customer groups, with the exception being the student sample which was composed of 12 Masters and 12 Doctoral students. Customer names and addresses for the pilot sample were compiled by consulting faculty members and administrative records. Useable responses were received from 21 students, ten HRD scholars, and six business customers.

3. Analysis of Survey Results as a Basis for Action Planning Phase three of the IQ-HRD process once again convened the Advisory Board to determine specific process interventions that could better align customer requirements and customer satisfaction. Steps involved in this phase included:

- Analysis of survey results using statistical measures and gap analyses (against customer quality requirements) as well as analysis of qualitative data to determine specific problem areas.
- Identification of discrepancies between different customer bases to determine if and how mutual satisfaction of all groups might be achieved.
- Rating of various process interventions against the criteria of (1) cost, (2) do-ability, (3) effectiveness, (4) time (Hayes, 1992) in order to prioritize a plan of action.
- Recommendation of 21 specific process interventions that were then presented to the HRD Faculty.

4. Implementation of Process Improvement Process Recommendations were shared with the Faculty and they were able to choose specific interventions on which to begin taking action. In all, 10 recommendations were selected to work on beginning in Spring, 1996 (see below for more information). This is the current phase of the IQ-HRD project.

5. Evaluation of Quality Improvement Results Every year another survey will be conducted so that accurate and useful results on the progress of the selected interventions can be monitored. The survey will measure changes in customer satisfaction against pre-determined customer quality requirements.

The Quality Advisory Board will convene quarterly to monitor the progress of steps being taken and provide an element of accountability. They will also be responsible for analyzing and discussing the results of the yearly survey and making recommendations. Finally, they will meet with the HRD faculty so that results and recommendations can be accurately interpreted and the next cycle of the quality improvement process can begin.

Evaluation of IQ-HRD Effort

Indicators of IQ-HRD Success The quality improvement process has been underway at the University of Minnesota's HRD program for just over one year now. The nature of a continuous quality effort requires measurement of real progress on a longer-term horizon. However, results thus far provide promise for a successful initiative. Results in terms of progress of the effort include:

- The identification of key external customers and their quality requirements for the University of Minnesota HRD academic program.
- Establishment of an ongoing Advisory Board for improving the quality of the HRD academic program.
- Development of practical tools and processes to measure key dimensions of customer satisfaction for the HRD academic program.
- Initial measurement of external customers' satisfaction with key dimensions of the program.
- Identification of 21 recommendations to improve the University of Minnesota HRD program.
- Presentation of these results and recommendations to the HRD faculty.
- Ongoing improvement of the HRD academic program processes based upon customer satisfaction data.
- Installation and documentation of an ongoing customer satisfaction measurement process to provide feedback to the Advisory Board, faculty, staff, and students of the HRD academic program.
- Presentation of the IQ-HRD Project through media coverage and conference presentations as well as publishing theory-to-practice research on the strategies, processes, and tools developed through the IQ-HRD Project.

The information resulting from this effort has prompted specific changes in the nature of curriculum and its presentation as well as guidance for student advising, student administration, internship administration, and placement strategy. Additionally, the effort has provided more insight into areas that need to be fortified to ensure that the academic program is maintaining that

delicate balance between practice and theory. Finally, the IQ-HRD effort provides the starting point for further applied research into strategies for enhancing the experience of the HRD program's direct customer (the student body) and for more effectively meeting the needs of its indirect customers (industry and academia).

Current Status of IQ-HRD Effort The IQ-HRD effort at the University of Minnesota is still active, experiencing and addressing the difficulties associated with many efforts of this kind. During the Quality Advisory Board meeting in December, it was reported that 6 of the 10 recommendations committed to in Spring, 1996 had been implemented (a 60% achievement rate).

There are still 15 recommendations to implement. The Quality Advisory Board worked with HRD Faculty to identify barriers to future implementation. Quite simply, the University of Minnesota (like most other Universities) is experiencing a lack of resources paired with growing demands on the Faculty and staff. To address this paradox, the Quality Advisory Board encouraged that a new entity be formed to focus on implementation. The "Leadership Council", chaired by a faculty member from the Quality Advisory Board, will be comprised of volunteer faculty, staff, and students. Unlike other committees, membership on the "Leadership Council" will be tied to one specific task. Members will have primary task responsibility and accountability and when their task is complete they will be encouraged to take on another task or discontinue their involvement in the council.

It was decided that the administration of the second annual survey will be delayed to provide additional time for the HRD academic program to continue their work on the current recommendations and then more effectively measure *changes* in customer satisfaction against current customer requirements. The Quality Advisory Board will serve an accountability function for the HRD program and continue to provide guidance to address quality improvement.

Lessons Learned

Discussion by Advisory Board members at the conclusion of the first year of this on-going project, and reflection by the managers of the project, produced the following set of lessons learned.

- Identifying customer quality requirements and developing customer satisfaction measurement tools requires substantial time and resources. An initial effort to immediately identify key quality requirements for each of the three customer groups could not be completed with the resources available. It would have been better to focus initial efforts more narrowly, for instance, on a subset of the requirements of one customer group, and then to continually expand and refine this work.
- An initial effort to measure customer satisfaction and identify quality issues for improvement by using a common questionnaire format across all three customer groups was not optimal. Student responses were encouraging, but business and scholar groups found the questionnaire confusing. We found that separate survey tools are needed for each customer group. It would have been more useful to gather initial customer satisfaction information from business and scholar groups through interviews, and then to develop a questionnaire for follow-up surveys.
- Individuals and organizations in the business and academic community did not initially see themselves as "customers" of the HRD academic program, even though they hired HRD graduates, sponsored HRD research and internships, and used the results of HRD research. This was an additional barrier when soliciting customer feedback from business leaders and HRD scholars.
- It is important to simultaneously measure (1) customer perceptions of satisfaction with the program, and (2) the perceived importance of different aspects of the program. Both sets of data can then be combined to determine which quality improvements will have the greatest impact on customer perceptions.
- We began by focusing on a comprehensive list of academic program processes, but this framework proved unwieldy for seeking customer feedback. It would have been better to focus on measuring and improving a small number of key processes.

- In analyzing the academic program in terms of inputs, processes, and outputs, we found that connections between many processes and outputs were surprisingly complex. A single decision about the process of delivering the academic program (e.g., staffing of some courses with HRD doctoral students) contributed in complex ways to a range of important outputs, some conflicting (e.g., some HRD doctoral students valued opportunities to teach, but some students perceived these courses as of lower quality since they were not taught by regular faculty). Additionally, we found that one output (e.g., business perception of program quality) might be the result of several processes (e.g., recruitment, course content, course scheduling, internships, and dissemination of research). This made the choice of quality improvement recommendations challenging. This complexity was in contrast to our experience of quality improvement initiatives in private-sector organizations, where a clear linear relationship could be mapped from a work process to a discrete set of outputs (e.g., a given production process results in a discrete set of products or services only associated with that process). This may represent an important difference between the way operations are structured within the field of higher education and in business organizations.
- We learned that implementation requires infrastructure. With limited faculty resources and increasing workloads, our quality improvement process and recommendations needed stronger organizational support than they received during the first year of the initiative. Faculty simply did not have the time to do everything that was required. We have now established a "Leadership Council" of task-focused student and faculty leaders to address the remaining recommendations for quality improvement.
- We now have a deeper understanding of the impact that events in the larger University environment can have on departmental quality initiatives. During the academic year, the University's executive-level quality efforts were redirected as the result of an impending leadership change and changes in strategic initiatives. These changes limited both the financial resources and the emotional energy available to devote to the HRD program's quality improvement efforts.
- Finally, we learned that it is important to anticipate how the role and responsibilities of a Quality Advisory Board will change once their initial set of improvement recommendations are formulated and passed along to program faculty. As our quality improvement program enters its second year, we are re-negotiating the role and responsibilities of the Advisory Board in monitoring implementation, generating additional quality recommendations, and guiding the project into its next phase.

Conclusion

This paper has described the piloting of a customer-driven process for continuous quality improvement in the University of Minnesota's HRD academic program. The effort applied a unique process improvement model to three customer groups: business leaders, HRD scholars, and HRD students. The project identified initial customer requirements and key processes within the academic program, piloted a customer satisfaction instrument, and used customer data to make recommendations for improving the academic program.

Perhaps the strongest contribution of the IQ-HRD methodology is the way in which it addresses a critical area for academic programs. The biggest costs of poor quality in an HRD program are dissatisfied students, dissatisfied business leaders, and dissatisfied academics. The opposite is true in terms of quality. The return-on-investment snowballs as a sound reputation builds in the form of more satisfied students, increased efficiency, lower costs, and increased odds of added funding from responsible partners. An input-process-output flow in which customer requirements and customer satisfaction are monitored, analyzed, and integrated can only result in (1) an HRD academic program that more directly connects theory to practice and (2) a stronger, long-term foundation on which HRD academic programs can be successful.

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